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Additional notes to the family Alucitidae from Iran (Lepidoptera: Alucitoidea)

H. Alipanah & P. Ustjuzhanin

Abstract

Ten species of the family Alucitidae are listed. The genus *Pterotopteryx* and the species *Pterotopteryx colchica* Zagulajev, *Alucita desmodactyla* Zeller, *A. grammodactyla* Zeller, *A. huebneri* Wallengren and *A. ordubadi* Zagulajev are reported from Iran for the first time, and the data of their geographical distribution are provided. New data on the distribution of the *Alucita* species previously reported from Iran are presented. The hitherto unknown female of *A. ordubadi* is also described.

KEYWORDS: Lepidoptera, Alucitidae, *Pterotopteryx*, *Alucita*, new records, Iran.

Notas adicionales a la familia Alucitidae de Irán (Lepidoptera: Alucitoidea)

Resumen

Se presentan diez especies de la familia Alucitidae. Se citan por primera vez para Irán el género *Pterotopteryx* y las especies *Pterotopteryx colchica* Zagulajev, *Alucita desmodactyla* Zeller, *A. grammodactyla* Zeller, *A. huebneri* Wallengren y *A. ordubadi* Zagulajev, y se proporcionan los datos sobre su distribución geográfica. Se presentan los nuevos datos sobre la distribución de las especies de *Alucita* de Irán conocidas previamente. También se describe la hembra desconocida de *A. ordubadi* Zagulajev.

PALABRAS CLAVE: Lepidoptera, Alucitidae, *Pterotopteryx*, *Alucita*, nuevos registros, Irán.

Introduction

The family Alucitidae, with multiple clefts in the fore- and hindwing, comprises about 208 described species from nine genera worldwide. Among them, the genus *Alucita* with almost 183 known species, has its own representatives in all parts of the world, while some others are restricted to one or two zoogeographical zones (GIELIS, 2003, 2009; LANDRY & LANDRY, 2004; BYUN & PARK, 2007; GIELIS & BUSZKO, 2009; VARGAS, 2011, USTJUZHANIN & KOVTUNOVICH, 2011). The families Asteraceae, Caprifoliaceae and Lamiaceae are known host plants of alucitids (GIELIS, 2003).

So far only five species of this family are reported from Iran all of them belonging to the genus *Alucita* (SCHOLZ & JAECKH, 1994; SCHOLZ, 1997; WIESER, *et al.*, 2001; GIELIS, 2003). During the study of Alucitidae species, preserved in Hayk Mirzayans Insect Museum (HMIM), several species were determined. One only of them belonged to genus *Pterotopteryx* and the remaining were members of the genus *Alucita*. Genus *Pterotopteryx* and four *Alucita* species are considered as new records for the fauna of Iran. The hitherto unknown female of *Alucita ordubadi* Zagulajev is described. Moreover, we provide new data on the distribution of Alucitidae species in Iran.

Material and Methods

This study is based mainly on the material collected in Iran during the last 40 years. All examined specimens are preserved in Hayk Mirzayans Insects Museum (HMIM) of the Iranian Research Institute of Plant Protection (IRIPP), Tehran, Iran.

Taxonomy

Genus *Pterotopteryx* Hannemann, 1959

Pterotopteryx colchica Zagulajev, 1992

Material: 1 ♂, 1 ♀, Tonekābon, Dohezār (Māzandarān Prov.), 460 m, 9-VI-2005, Nematīān, Ālipanāh & Sinev leg.

Distribution: Georgia, Batum region, Kolhid's forest, Gonio (ZAGULAJEV, 1992).

Remarks: The genus and species are newly reported from Iran.

Genus *Alucita* Linnaeus, 1758

Alucita cancellata (Meyrick, 1908)

Material: 1 ♂, 1 ♀, 25 km E Bāneh (Kordestān Prov.), 1950 m, 4-VII-1975, Pāzuki leg.; 1 ♂, Eslāmābād-e Gharb, Kerend, Jalilvand, Emāmzādeh Panj-Savār (Kermānshāh Prov.), N 34° 13' 1.4", E 46° 32' 5.1", 1740 m, 22-23-V-2007, Zahiri leg.; 1 ♂, 5 ♀♀, Neyshābour (Khorāsān-e Razavi Prov.), 23-IX-1972, Abāi, Pāzuki leg.; 1 ♂, Kuhrang, Hiregān (Chāhārmahāl Va Bakhtiāri Prov.), N 32° 20' 31", E 50° 26' 56", 2305 m, 6-VI-2005, Ebrāhimi, Hājesmailiān leg.; 1 ♀, 15 km E Doroud, Sarāvand, Darāstāneh (Lorestān Prov.), 2000 m, 6-VIII-1975, Pāzuki leg.; 2 ♂♂, Doroud, Emārat, Ti vill. (Lorestān Prov.), 550 m, 17-V-2002, Moghaddam, Serri, Pārsi, Nematīān leg.

Distribution. Italy, France, Hungary, Slovenia, Croatia, Bosnia-Herzegovina, Macedonia, Romania, Moldavia, Russia (Western Caucasus), Turkey, Syria, Iran (Ghasr-e Shirin, Golestan), Palestine (SCHOLZ & JAECKH, 1994; WIESER, *et al.*, 2001; GIELIS, 2003; USTJUZHANIN & KOVTUNOVICH, 2008).

Alucita cinerethella (Amsel, 1935)

No specimens were available for examination in this study.

Distribution: Turkey, Palestine, Iran (Shiraz) (SCHOLZ & JAECKH, 1994; GIELIS, 2003).

Alucita cymatodactyla Zeller, 1851

Material: 2 ♀♀, Golestān National Park, Ālmeh (Golestān Prov.), 1600 m, 1-IX-1987, Pāzuki leg., 3 ♂♂, 5 ♀♀, Golestān National Park, Ālmeh (Golestān Prov.) N 37° 28' 31.8", E 55° 42' 43.6", 1658 m, 4-IX-2009, Ālipanāh, Buszko leg.; 1 ♂, Elburz Mt, Gachsar, 30 km W Āzādbar (Alborz Prov.), N 36° 07' 9.72", E 51° 13' 8.04", 2625 m, 2-VI-2005, Fibiger, Zahiri leg.; 1 ♀, Sisakht, (Kohgiluyeh Va Boyerahmad Prov.) 2100 m, 16-VI-1986, Mirzāyāns, Hāshemi leg.

Distribution: France, Spain, Italy, Hungary, Slovenia, Croatia, Bosnia-Herzegovina, Macedonia, Serbia, Albania, Turkey, Lebanon, Palestine, Iran (Tehran, Darband), (SCHOLZ & JAECKH, 1994; GIELIS, 2003).

Alucita desmodactyla Zeller, 1847

Material: 1 ♂, Natanz, Tāmeḥ (Esfahān Prov.), N 33° 27' 43.4", E 51° 50' 52.4", 2283 m, 11-VIII-2010, Nematīān, Ālipanāh leg.

Distribution: Palaearctic: France, Spain, Tunisia, Germany, Switzerland, Italy, Poland, Czech

Republic, Slovakia, Austria, Hungary, Slovenia, Croatia, Bosnia-Herzegovina, Macedonia, Serbia, Romania, Greece, Crete, Moldavia, Ukraine, Russia (Volga region, the Russian Caucasus), Armenia (GIELIS, 2003; USTJUZHANIN & KOVTUNOVICH, 2008).

Remarks: This species is newly reported for the fauna of Iran.

Alucita grammodactyla Zeller, 1841

Material: 1 ♂, Meshkin-Shahr, Sabalān (Ardebil Prov.), N 38° 27' 10.7", E 47° 50' 38.8", 1680 m, 15-IX-2008, Ālipanāh, Buszko leg.; 1 ♀, 15 km E Orumiyeh (Āzarbāijān-e Gharbi Prov.), 2-IV-1975, Abāi leg.; 1 ♂, 15 km N E Sardasht (Āzarbāijān-e Gharbi Prov.), 23-VI-1975, Abāi leg.

Distribution: Netherlands, Belgium, Luxemburg, France, Spain, Portugal, Sweden, Denmark, Germany, Switzerland, Italy, Malta, Eastland, Poland, Czech Republic, Slovakia, Austria, Hungary, Slovenia, Croatia, Bosnia-Herzegovina, Macedonia, Serbia, Albania, Bulgaria, Greece, Turkey (GIELIS, 2003), Russia (Western Caucasus) (USTJUZHANIN & KOVTUNOVICH, 2008).

Remarks: This is the first record of this species for the fauna of Iran.

Alucita huebneri Wallengren, 1859

Material: 1 ♀, Karaj (Alborz Prov.), 26-VII-1967, Mīrzāyāns, Abāi leg.; 2 ♀♀, Sisakht, Karreh, Posht-Karreh (Kohgiluyeh Va Boyerahmad Prov.), 2375 m, N 30° 56' 58.0", E 51° 22' 26.8", 10-VIII-2011, Sarafrazi, Falsafi leg.

Distribution: Palaearctic: Luxemburg, France, Spain, Portugal, Germany, Switzerland, Italy, Sardinia, Poland, Czech Republic, Slovakia, Austria, Hungary, Slovenia, Croatia, Bosnia-Herzegovina, Macedonia, Serbia, Romania, Bulgaria, Greece, Ukraine, Russia (Kaliningrad region, the Russian Caucasus), Turkey (GIELIS, 2003; USTJUZHANIN & KOVTUNOVICH, 2008).

Remarks: This species is newly reported from Iran. There are minor differences in the female genitalia of specimens collected in Kohgiluyeh Va Boyerahmad province and those of the locus typicus. In specimens collected in Sisakht, apophyses anteriores and posteriores are slightly longer, ductus bursae is moderately narrower and signum looks like a granulated plate with slight concavity.

Alucita iranensis Scholz & Jäckh, 1994

Material: 2 ♀♀, Kuh-e Sorkh, N Rivās, Kalāt-e Sayāhepour (Khorāsān-e Shomālī Prov.), 1750 m, 12-VI-2005, Hofmann, Meineke leg.; 1 ♂, Bojnurd, Sisāb (Khorāsān-e Shomālī Prov.), 29-X-2007, Zahiri, Karimzādeh-Esfahāni leg.; 1 ♂, Evin (Tehrān Prov.), 15-VII-1970, 1 ♂, Evin, 1-X-1972; 1 ♀, Zardkuh (Chāhārmahāl Va Bakhtiāri Prov.), 2440 m, 15-VIII-1976, Pāzuki, Borumand leg.; 1 ♀, Jiroft, Esfandagheh (Kermān Prov.), 21-IV-1971, Safavi, Zairi leg.

Distribution: Iran (Tehran) (SCHOLZ & JÄCKH, 1994).

Alucita ordubadi Zagulajev, 2000

Material: 1 ♂, 2 ♀♀, Āmol, Chamestān, Vaz vill to Gaznāsarā vill. Rd. (Māzandarān Prov.), N 36° 18' 51.7", E 52° 07' 17", 1761 m, 28-VII-2007, Ālipanāh, Nematīān leg.; 1 ♀, Eslāmābād-e Gharb (Kermānshāh Prov.), 3-VII-1972, 1500 m, Mīrzāyāns, Abāi leg.; 6 ♀♀, Kermān, Bāft, Ghanāt-e Marvān (Kermān Prov.), 2800 m, 22-23-V-1977, Safavi, Pāzuki, Abāi leg.

Description of female: Adult (Fig. 1A). Head: smooth scaled, dirty cream-coloured. Labial palpus protruding, cream, mixed with brownish scales laterally on first and second segments and third one (just like the examined male) with ring of brownish scales near to distal part (Fig. 1 C-D); almost 3x as long as horizontal diameter of compound eye; first and third segments covered with almost smooth scales in both dorsal and ventral surfaces, except for slightly raised scales on ventral surface of first segment, second segment covered with raised scales on both dorsal and antero-ventral sides; 2nd segment almost 2x as long as the 3rd segment; 3rd segment very narrow, almost 2/7 of width of 2nd one. Antennae ringed with brownish and creamy scales dorsally, obscuring towards distal part; each funicular segment with two rings of scales and almost 2x as long as its width; cilia dense and distinctly shorter than that of male. Thorax and tegula dirty-cream tinged with light brownish scales. Wingspan

15.5-16.0 mm. Forewing length 7.0-7.5 mm. (wingspan of the single male specimen 14 mm). Forewing light brownish with six lobes including three major lobes. The 1st and 2nd major lobes each divided into two and three minor lobes respectively. The 3rd major lobe remains undivided. The 1st minor lobe with seven spots along costa; spots I very small and its width 1/4 width of basal part of 1st lobe; remaining spots, except last one, more or less in same width as 1st minor lobe (in male specimen exactly as in type specimen of *A. ordubadi*, spots II and III rather short as well) (Fig. 1B) and last one very small; all spots except for first and last ones with whitish marginal line laterally; median fasciae on the minor lobes 3rd-5th and outer fascia as well as the fasciae of hind wing as in type specimen. The scales on the upper and outer surfaces of legs exactly as in type specimen (pale fuscous in fore and middle legs and whitish gray in hind leg).

Female genitalia (Fig. 2 A-C): Apophyses anteriores slightly longer than posteriores. Antrum funnel-shaped, very slightly sclerotized, with straight upper walls and a sclerotized area at posterior end of funnel; lamellae antevaginalis membranous; anterior margin of eight abdominal sternite concave. Ductus bursae membranous, more than 2x length of corpus bursae and narrowing towards posterior end. Corpus bursae long, distinctly pear-shaped and membranous; without signum. Ductus seminalis arising from swelling on posterior end of corpus bursae, at junction with ductus bursae.

Distribution: Transcaucasia (Azerbaijan); Iran (Mazandaran, Kerman and Kermanshah provinces).

Bionomy: Food plants and early stages unknown.

Diagnosis: By absence of signa in corpus bursae of female genitalia, *Alucita ordubadi* Zagulajev resembles *A. desmodactyla* Zeller, *A. hexadactyla* (Linnaeus), *A. major* (Rebel), and *A. zonodactyla* Zeller, but differs from the last two species by a different shape of the antrum. It is most close to *Alucita desmodactyla* Zeller but differs strongly by the shape of corpus bursae: in *A. ordubadi* Zagulajev distinctly pyriform, while in *Alucita desmodactyla* Zeller broad at the junction with the ductus bursae, but narrows towards the end.

Remarks: The genitalia of the examined male (Fig. 2D) exactly matches the type specimen, but distal end of gnathos is slightly narrower. This species is newly recorded in the fauna of Iran.

Alucita pseudohuebneri Scholz, 1997

Material: 1 ♂, 1 ♀, Moallemān (Semnān Prov.), 1070 m, 17-V-2005, Falsafi, Nematīān leg.

Distribution: Turkey (Mersin), Iran (Elburz Mt., NW Tehran, Darband) (SCHOLZ, 1997).

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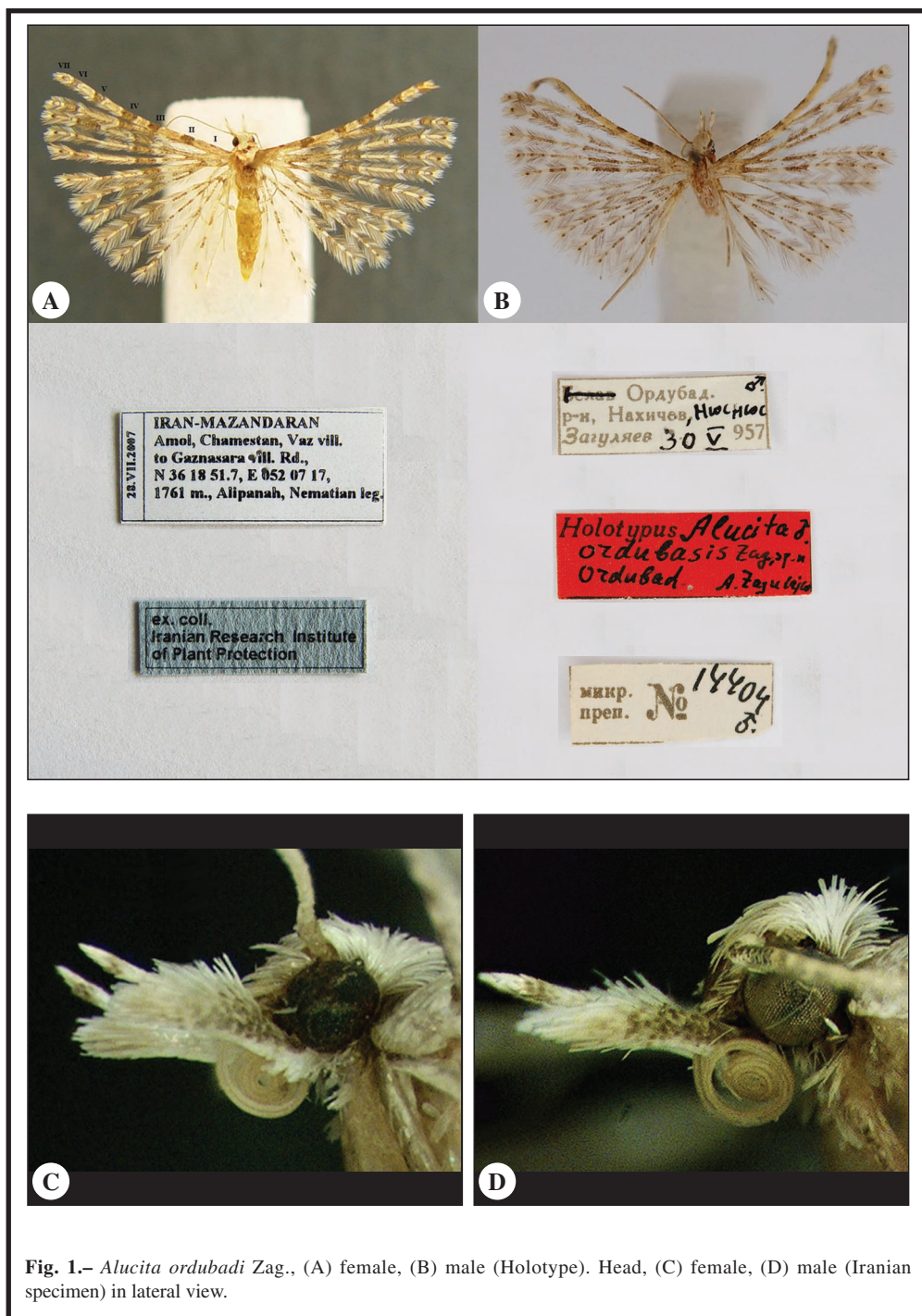


Fig. 1.— *Alucita ordubadi* Zag., (A) female, (B) male (Holotype). Head, (C) female, (D) male (Iranian specimen) in lateral view.

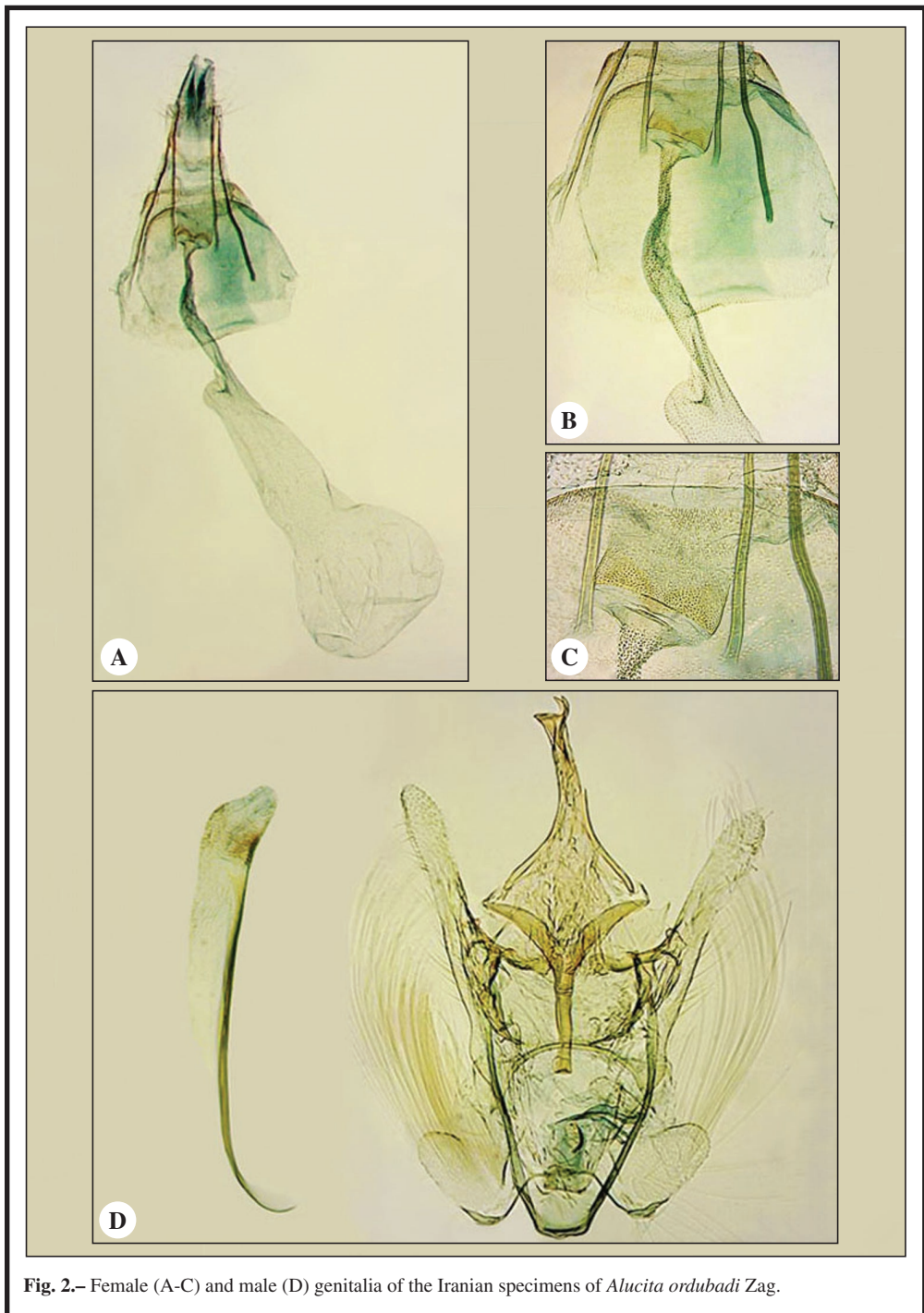


Fig. 2.– Female (A-C) and male (D) genitalia of the Iranian specimens of *Alucita ordubadi* Zag.